

CHAPTER III

RESEARCH METHODOLOGY

A. Research Method

The research is applying quantitative method and this research is experimental research. According to Nunan (1992), experiment is a procedure for testing a hypothesis by setting up a situation in which the strength of the relationship between variable can be tested.¹

There are three kinds of quantitative research designs, they are; (1) experimental, which may have pre- and post- treatment test, but lacks a control group. (2) quasi-experimental which has both pre- and post-test, experiment and control group, but no random assignment of subject. And (3) true experimental which has both pre- and post-test, experimental and control groups and random assignment of subjects.²

The researcher wants to find out the effectiveness in using variabel x (scaffolding technique) towards variabel y (student's skill in writing descriptive text). In this reasearch, the researcher used the quasi-experimental that concerned on pre-test and post-test, and the treatment conducted only in experimental group. Ary stated that quasy experimental designs are similar to

¹David Nunan, *Research Method In Language Learning*, (New York: Cambridge University Press, 1992), 2.

²David Nunan. *Ibid*, p.41

randomized experimental designs in that they involve manipulation of an independent variable but differ in that subjects are not randomly assigned to treatment group.³

Table 3.1

Quasi Experimental Design

Control Class	Experiment Class
1. Pre-Test	1. Pre-Test
2. No Special Treatment	2. Experimental Treatment
3. Post Test	3. Post Test

B. The Population and Sample

The source of the research data called population and sample. From the selected population and sample, the researcher gained the information and also the data which answered the research problem.

1. Population

According to Fraenkel and Wallen “A sample in a research study is the group on which information is obtained. The large group to which one hopes to apply the results is called the Population.” In educational research, the population of interest is usually a group of persons (students, teachers, or other individuals) who possess certain characteristics.⁴ The

³Donald Ary, Introduction to Research in Education 8th Ed, (Boston: Cengage Learning, p.316.

⁴Jack R. Fraenkel and Norman E. Wallen, *How to Design and Evaluate Research in Education* (New York: McGraw- Hill, 2009), p.92.

population of this research is the students of MTs MII Cidangiang Pandeglang. The total population of this research are 50 students consist of two classes.

2. Sample

The sample provided useful information for answering question and hypothesis. In addition, the principle gave the two available classes to be participated in this research as sample with the permission of English teacher. According to Nunan (1992), a sample is a subset of individuals or cases within population.⁵ The sample of this research were the seventh grade students. They are 50 students, 25 students from VII A as experimental class and 25 students from VII C as control class.

C. Place and Time of The Research

The research conducted at MTs MII Cidangiang. Which is located in Jl.Raya Labuan KM. 03 Cidangiang Pandeglang, Saruni, Majasari, Kabupaten Pandeglang, Banten 42219, Indonesia. The researcher hold this research on the middle of April – May 2018. The reason why the researcher choose this school is because based on her observations when she conduct her PPLK's duty in this school, the researcher has a lot to know the problem that happened to student at school especially in writing English. Although this school is far, but this school give the researcher support in taking the data and also the media used

⁵David Nunan, *Research Method In Language Learning*, (New York: Cambridge University Press, 1992),p.232.

in the learning process is still traditional, so the researcher want to give the contribution for this school

D. Research Instrument and Technique of Data collecting

Research instrument is a device used by the researcher while collecting the data to make his work becomes easier and to get the better result, complete, and systemic in order to make the data easy to process.⁶ The researcher used a written test as the instrument of the study. The test conducted in this research included pre-test and post-test. In this research, the control class was not given the treatment of scaffolding technique, however, the experimental class would be given the post-test after treatment of scaffolding technique.

1. Test

According to Brown, “Test is a method of measuring a person’s ability, knowledge, or a performance in a given domain”⁷. Test is one instrument to get real results from the object that has been studied, in this case the researchers used two kinds of test that is pre-test and post-test.

a. Pre-test

The pre-test was performed to determine the initial state between the experimental class and the control class. The researcher will give the test before implementing scaffolding technique to know students’

⁶ Arikunto, S, *Prosedur Penelitian: Suatu Pendekatan Praktek*, Jakarta: PT. Rineka Cipta, 2010).

⁷ Douglas Brown, *Language Assessment Principal and Classroom Practice*, (United Stated of Amerika: Longman), p.3

writing descriptive text and to get the data of their writing's ability of both two groups. So in both of class; control and experiment class would be given the same pre-test, after it the researcher did a post-test.

b. Post-test

Post-test is a measure taken after the experimental treatment of scaffolding technique has been applied. In this research the control class was not given the treatment. Hence, the post-test conducted in the final of the study to see the effectivity of the treatment. Control and experiment class will get a same post-test also.

E. The Technique of Data Analyzing

According to Sudijono, *t*-Test is one of the statistical tests used to test truth or falsity of the null hypothesis which states that between two samples taken randomly from the same population, there is no significant difference.⁸ The researcher uses a statistical calculation of the *t*-Test to determine the final calculation of *t₀* that is done to measure the last score of research test.

Data analysis did after the researcher got the students' writing score in both test; pre-test and post-test, to analysis the writing test and to prove the realibility of the instrument. The result of the post-test in experimental class is named variable X_1

⁸Anas Sudijono, *Pengantar Statistik Pendidikan*, (Jakarta: Raja Grafindo Persada, 2012), 278

and the result of the post-test in control class is named variable X_2 .

The data will be analyzed by using statistic correlation as follows:⁹

1. Determining mean of variable X_1 with formula :

$$M_1 = \frac{\sum X_1}{N_1}$$

2. Determining mean of variable X_2 with formula :

$$M_2 = \frac{\sum X_2}{N_2}$$

3. Determining deviation score variable X_1 with formula :

$$x_1 = X_1 - M_1$$

4. Determining derivation score variable X_2 with formula :

$$x_2 = X_2 - M_2$$

After collecting the data from pre-test and post-test, the researcher analyze it by using statistic calculation of t-test formula with significance degree 5% and 1%. The formula is as follow :

$$t_0 = \frac{M_1 - M_2}{\sqrt{\left(\frac{\sum x_1^2 + \sum x_2^2}{N_1 + N_2 - 2}\right) \left(\frac{N_1 + N_2}{N_1 \cdot N_2}\right)}}$$

⁹Anas Sudijono, *Pengantar Statistik Pendidikan*, (Jakarta: PT Raja GrafindoPersada, 2014), 317.

Notes :

t_0 = The value of t observation

M_1 = Mean score of the experiment class (X_1)

M_2 = Mean score of the control class (X_2)

$\sum x_1^2$ = Sum of squared deviation score in experiment class

$\sum x_2^2$ = Sum of squared deviation score in control class

N_1 = Number of students of experiment class

N_2 = Number of students of control class

2 = Constant number

df = Degree of Freedom ($df = N_1 + N_2 - 2$)

5. Doing interpretation and calculation by comparing the result of calculation t -Test with t-table.